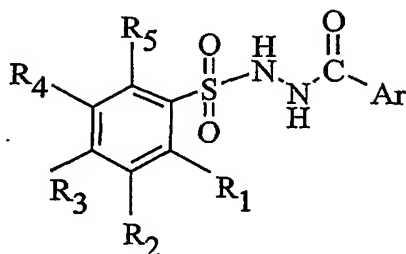


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CLAIMS

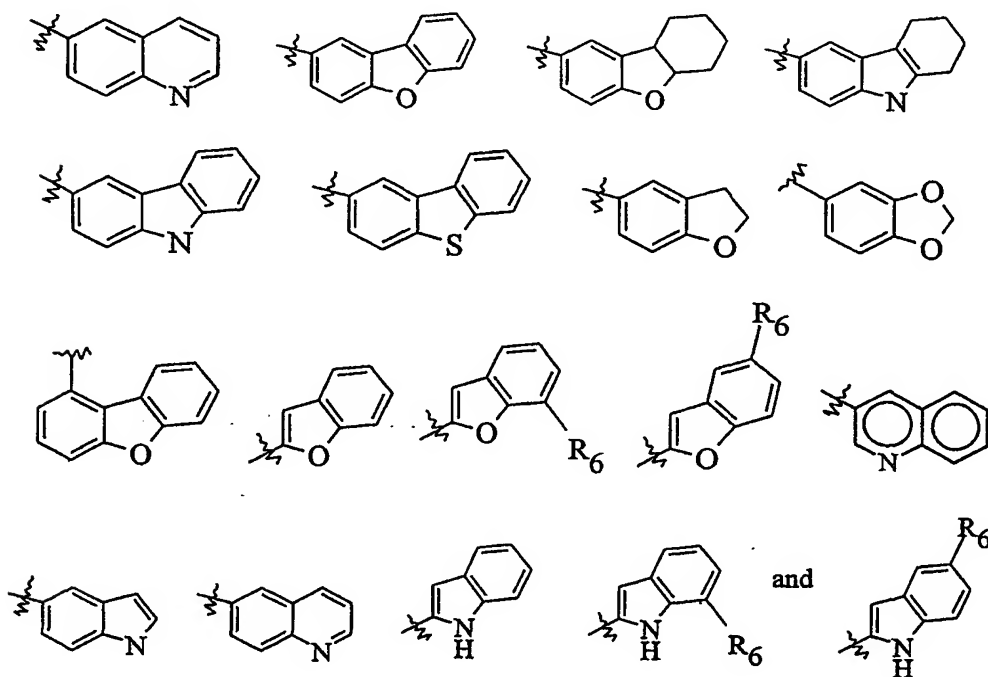
1. A compound of Formula I



wherein:

- 5 R_3 is H, or F, Br, alkyl, carboxy, alkoxy, substituted alkoxy,
 R_1 , R_2 , R_4 , and R_5 are independently, H, halogen, alkyl, substituted alkyl,
 alkoxy, substituted alkoxy, cyano, nitro, amino, alkylamine, and
 thioalkyl, Ar is bicyclic heteroaryl, tricyclic heteroaryl, substituted
 bicyclic heteroaryl, except (6-methoxybenzofuran)-2-nyl, 3-quinolinyl;
 0 or a pharmaceutically acceptable salt, ester, prodrug, or amide thereof.

2. A compound according to Claim 1 wherein Ar is selected from the group consisting of:



wherein R₆ is alkoxy, substituted alkoxy, halogen, aryloxy, substituted aryloxy, alkylamino, substituted alkylamino, arylalkylamino, substituted arylalkylamino, amide or substituted amide.

3. A compound according to Claim 1 wherein R₁, R₂, R₃, R₄, and R₅ are hydrogen.
4. A compound according to Claim 1 wherein Ar is a tricyclic heteroaryl.
5. A compound according to Claim 1 wherein Ar is a bicyclic heteroaryl.
6. A compound according Claim 1 wherein the compound is:
 - Dibenzofuran-2-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
 - 2,3,4,9-Tetrahydro-1H-carbazole-6-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;
 - Benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
 - 5-Methoxy-2-benzofurancarboxylic acid, 2-(phenylsulfonyl)-hydrazide;
 - 7-Methoxy-2-benzofurancarboxylic acid, 2-(phenylsulfonyl)-hydrazide;
 - 7-Ethoxy-2-benzofurancarboxylic acid, 2-(phenylsulfonyl)-hydrazide;
 - 7-Chloro-benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;
 - 5-Chloro-benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;
 - 2,3-Dihydro-benzofuran-5-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;
 - Benzo[1,3] dioxole-5-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
 - 1H-Indole-5-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
 - 1-Dibenzofurancarboxylic acid, 2-(phenylsulfonyl)hydrazide;
 - Quinoline-6-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
 - 2-Dibenzofurancarboxylic acid, 2-[(2-methylphenyl)sulfonyl]-hydrazide;
 - 2-Dibenzofurancarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;
 - 2-Dibenzofurancarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-hydrazide;

Dibenzofuran-2-carboxylic acid, 2-(3,5-dichlorophenylsulfonyl)-hydrazide;

5 Quinoline-6-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

Quinoline-8-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(4-fluorophenyl)]-sulfonyl hydrazide;

10 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(4-fluorophenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(4-fluorophenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2-chloro-4-fluorophenyl)-sulfonyl]hydrazide;

15 2-Dibenzofurancarboxylic acid, 2-[(3-cyanophenyl)sulfonyl]-hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-, 2-[(3-cyanophenyl)-sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2,6-dichlorophenyl)sulfonyl]-hydrazide;

20 2-Benzofurancarboxylic acid, 5-bromo-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-, 2-[(2-chloro-4-fluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-, 2-[(3,5-dichlorophenyl)-sulfonyl]hydrazide;

25 2-Dibenzofurancarboxylic acid, 2-[[3,5-bis(trifluoromethyl)-phenyl]-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro, 2-[(3-chloro-4-fluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-nitro-, 2-(phenylsulfonyl)-hydrazide;

30 2-Dibenzofurancarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(5-fluoro-2-methylphenyl)-sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3,4-difluorophenyl)sulfonyl]-hydrazide;

5 2-Dibenzofurancarboxylic acid, 2-[(3-methoxyphenyl)-sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3-chloro-4-fluorophenyl)-sulfonyl]hydrazide;

10 2-Benzofurancarboxylic acid, 5-chloro-2-[(3-fluorophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(3,4-difluorophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(2-chlorophenyl)-sulfonyl]hydrazide;

15 2-Benzofurancarboxylic acid, 5-chloro-2-[(3-chlorophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(2-bromophenyl)-sulfonyl]hydrazide;

20 2-Benzofurancarboxylic acid, 5-chloro-2-[(3-bromophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(2-methylphenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(3-methylphenyl)-sulfonyl]hydrazide;

25 2-Benzofurancarboxylic acid, 5-chloro-2-[(3-methoxyphenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(3-chloro-2-methylphenyl)sulfonyl]hydrazide;

30 2-Benzofurancarboxylic acid, 5-chloro-2-[(5-fluoro-2-methylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[[2-(trifluoromethyl)-phenyl]sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[[2-(trifluoromethoxy)-phenyl]sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[[2-(trifluoromethyl)-phenyl]sulfonyl]hydrazide;

5 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-methylphenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-methoxy-3-(1-methylethoxy), 2-(phenylsulfonyl)hydrazide;

10 2-Benzofurancarboxylic acid, 3,5-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 3,6-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 4,6-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

15 2-Benzofurancarboxylic acid, 3,7-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 3,7-dimethoxy-, 2-[(2-trifluoromethylphenyl)sulfonyl]hydrazide;

20 2-Benzofurancarboxylic acid, 3,7-dimethoxy-, 2-[(4-fluorophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 3,7-dimethoxy-, 2-[(3-methylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 3-methoxy-5-phenyl-, 2-(phenylsulfonyl)hydrazide;

25 2-Benzofurancarboxylic acid, 3-ethoxy-5-phenyl-, 2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 3-methoxy-7-phenyl-, 2-(phenylsulfonyl)hydrazide;

0 Naptho[2,3-b]furan-2-carboxylic acid, 3-methoxy-, 2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-(phenylsulfonyl)-sulfonyl hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-[[2-(trifluoromethyl)-phenyl]sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-[(2-methylphenyl)-sulfonyl]hydrazide;

5 2-Benzofurancarboxylic acid, 5,7-dichloro 2-[(3-methylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-[(2-bromophenyl)-sulfonyl]hydrazide;

10 2-Benzofurancarboxylic acid, 5,7-dichloro 2-[(3-bromophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-[(3-chlorophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-[[2-(trifluoromethoxy)phenyl]sulfonyl]hydrazide;

15 Benzofurancarboxylic acid, 5-methyl-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-3-methoxy, 2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[[2-(trifluoromethyl)-phenyl]sulfonyl]hydrazide;

20 2-Benzofurancarboxylic acid, 5-methyl-, 2-[(3-methylphenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[2-(methylphenyl)-sulfonyl]hydrazide;

25 2-Benzofurancarboxylic acid, 5-methyl-, 2-[(3-chloro-2-methylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[3-(bromophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[(3-chlorophenyl)-sulfonyl]hydrazide;

30 2-Benzofurancarboxylic acid, 5-methyl-, 2-[[2-(trifluoromethoxy)-phenyl]sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methyl-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 4-methyl-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 3-methyl-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 3,5-dimethyl-, 2-(phenylsulfonyl)-
hydrazide;

5 2-Benzofurancarboxylic acid, 5-chloro-3-methyl,
2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 5-amino-, 2-(phenylsulfonyl)-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2-fluorophenyl)sulfonyl]-
hydrazide;

10 2-Dibenzofurancarboxylic acid, 2-(2,6-difluorophenylsulfonyl)-
hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2-bromophenyl)sulfonyl]-
hydrazide;

15 2-Dibenzofurancarboxylic acid, 2-[(3-bromophenyl)sulfonyl]-
hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(4-methyl-3-nitrophenyl)-
sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[2-chloro-5-(trifluoromethyl)-
phenyl]sulfonyl)hydrazide;

20 2-Dibenzofurancarboxylic acid, 2-[(2-trifluoromethoxyphenyl)-
sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(4-bromo-2-
trifluoromethoxyphenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2-nitrophenyl)sulfonyl]-hydrazide;

25 2-Dibenzofurancarboxylic acid, 2-[(4-carboxyphenyl)sulfonyl]-
hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(4,5-dichloro-2-thienyl)-
sulfonyl]hydrazide;

30 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-chlorophenyl)-
sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-fluorophenyl)-
sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(2,3-dichlorophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-chloro-4-fluorophenyl)sulfonyl]hydrazide;

5 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(5-chloro-2-methoxyphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(5-bromo-2-methoxyphenyl)sulfonyl]hydrazide;

10 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(4-ethylphenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-methoxyphenyl)-sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2,3-dichlorophenyl)sulfonyl]-hydrazide;

15 2-Naphthalenecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[[2-(trifluoromethyl)phenyl]-sulfonyl]hydrazide;

2-Naphthalenecarboxylic acid, 2-[[4-(trifluoromethyl)phenyl]-sulfonyl]hydrazide;

20 2-Naphthalenecarboxylic acid, 2-[(3-chloro-4-fluorophenyl)-sulfonyl]hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-methoxyphenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;

25 2-Naphthalenecarboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(2,3-dichlorophenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(4-ethylphenyl)sulfonyl]-hydrazide;

30 3-Quinolinecarboxylic acid, 2-[(4-pentylphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[[2(trifluoromethyl)phenyl]-sulfonyl]hydrazide;

3-Quinolinecarboxylic acid, 2-[[2,5-bis(2,2,2-trifluoroethoxy)-phenyl]sulfonyl]hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[[2-(trifluoromethoxy)phenyl]-sulfonyl]hydrazide;

3-Quinolinecarboxylic acid, 2-[(4-methylphenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(2-trifluoromethylphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(2-trifluoromethylphenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(2-trifluoromethoxyphenyl)-sulfonyl]hydrazide;

3-Quinolinecarboxylic acid, 2-[(2-trifluoromethoxyphenyl)-sulfonyl]hydrazide;

6-Quinolinecarboxylic acid, 2-[(3,5-dichlorophenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3,5-dichlorophenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-chloro-4-fluorophenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-chloro-4-fluorophenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-methoxyphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-methoxyphenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-bromophenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-bromophenyl)sulfonyl]-hydrazide;

Benzofuran-2-carboxylic acid 2-(phenylsulfonyl)hydrazide;
7-Ethoxy-2-benzofurancarboxylic acid 2-(phenylsulfonyl)-hydrazide;
7-Chloro-benzofuran-2-carboxylic acid 2-(phenylsulfonyl)-hydrazide;
2,3-Dihydro-benzofuran-5-carboxylic acid 2-(phenylsulfonyl)-

5 hydrazide;

5-Chloro-benzofuran-2-carboxylic acid 2-(phenylsulfonyl)-hydrazide;
Isoquinoline-1-carboxylic acid 2-(phenylsulfonyl)hydrazide;
1H-Indole-5-carboxylic acid 2-(phenylsulfonyl)hydrazide;
Quinoline-3-carboxylic acid 2-(phenylsulfonyl)hydrazide;
10 Quinoline-4-carboxylic acid 2-(phenylsulfonyl)hydrazide;

1H-Indole-5-carboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;
1H-Indole-5-carboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-hydrazide;
1H-Indole-5-carboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;
1H-Indole-5-carboxylic acid, 2-[(3-trifluoromethylphenyl)-

15 sulfonyl]hydrazide;

1H-Indole-5-carboxylic acid, 2-[(2-trifluoromethylphenyl)-
sulfonyl]hydrazide;

1H-Indole-5-carboxylic acid, 2-[(2-trifluoromethoxyphenyl)-
sulfonyl]hydrazide;

20 1H-Indole-5-carboxylic acid, 2-[(3trifluoromethoxyphenyl)-
sulfonyl]hydrazide;

1H-Indole-5-carboxylic acid, 2-[(3-bromophenyl)sulfonyl]-hydrazide;

1H-Indole-5-carboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

1H-Indole-5-carboxylic acid, 2-[(2-methylphenyl)sulfonyl]-hydrazide;

25 6-Quinolinecarboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-trifluoromethylphenyl)sulfonyl]-
hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-trifluoromethoxyphenyl)-
sulfonyl]hydrazide;

30 6-Quinolinecarboxylic acid, 2-[(2-methylphenyl)sulfonyl]-hydrazide;

Dibenzofuran-2-carboxylic acid, 2-(4-fluoro-3-
methylphenylsulfonyl)hydrazide;

7-Methoxy-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

7-Chloro-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

5-Methoxy-1H-indole-2-carboxylic acid, (phenylsulfonyl)hydrazide;

5-Chloro-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

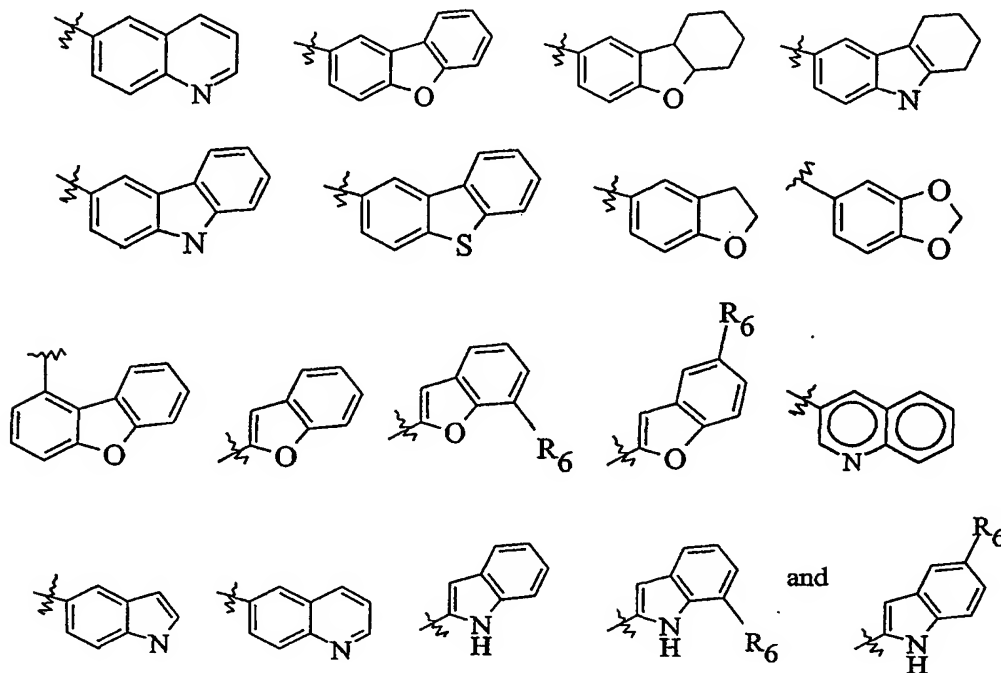
5-Chloro-1H-indole-2-carboxylic acid, 2-[(2-trifluoromethyl)-
phenylsulfonyl]-hydrazide;

5-Methyl-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;
and

5-Methyl-1H-indole-2-carboxylic acid, 2-[(2-trifluoromethyl)-
phenylsulfonyl]hydrazide.

7. A pharmaceutical composition comprising a compound of Claim 1 and a pharmaceutically acceptable carrier.
8. A method of treating or preventing neuronal loss associated with stroke, ischemia, CNS trauma, hypoglycemia or surgery, or treating a neurodegenerative disease, or treating or preventing the adverse consequences of the overstimulation of the excitatory amino acids, or treating anxiety, psychosis, glaucoma, CMV retinitis, diabetic retinopathy, urinary incontinence, migraine headache, convulsions, aminoglycoside antibiotics-induced hearing loss, Parkinson's disease, chronic pain, neuropathic pain, or inducing anesthesia, opioid tolerance or withdrawal, or enhancing cognition, comprising administering to a patient in need of such treatment an effective amount of a compound of Claim 1.

9. The method of Claim 8 wherein Ar is selected from the group consisting of:



wherein R_6 is is alkoxy, substituted alkoxy, halogen, aryloxy, substituted aryloxy, alkylamino, substituted alkylamino, arylalkylamino, substituted arylalkylamino, amide or substituted amide.

10. The method of Claim 8 wherein Ar is a bicyclic heteroaryl.

- 10 11. The method of Claim 8 wherein Ar is a tricyclic heteroaryl.

12. The method of Claim 8 wherein R_1 , R_2 , R_3 , R_4 , and R_5 are hydrogen.

13. The method of Claim 8 wherein the compound is:

Dibenzofuran-2-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

2,3,4,9-Tetrahydro-1H-carbazole-6-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

Benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

5-Methoxy-2-benzofurancarboxylic acid, 2-(phenylsulfonyl)-hydrazide;

7-Methoxy-2-benzofurancarboxylic acid, 2-(phenylsulfonyl)-hydrazide;

7-Ethoxy-2-benzofurancarboxylic acid, 2-(phenylsulfonyl)-hydrazide;

7-Chloro-benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;
5-Chloro-benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;
2,3-Dihydro-benzofuran-5-carboxylic acid, 2-(phenylsulfonyl)-
hydrazide;

5 Benzo[1,3] dioxole-5-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
1H-Indole-5-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
1-Dibenzofurancarboxylic acid, 2-(phenylsulfonyl)hydrazide;
Quinoline-6-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
2-Dibenzofurancarboxylic acid, 2-[(2-methylphenyl)sulfonyl]-
10 hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-
hydrazide;
2-Dibenofurancarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;
2-Dibenzofurancarboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-

15 hydrazide;
Dibenzofuran-2-carboxylic acid, 2-(3,5-dichlorophenylsulfonyl)-
hydrazide;

Dibenzofuran-2-carboxylic acid, 2-(3-chloro-2-methyl-
phenylsulfonyl)hydrazide;

20 Quinoline-6-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
Quinoline-8-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
2-Benzofurancarboxylic acid, 5-chloro-2-[(4-fluorophenyl)]-sulfonyl
hydrazide;

25 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(4-fluoro-
phenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(4-fluorophenyl)sulfonyl]-
hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2-chloro-4-fluorophenyl)-
sulfonyl]hydrazide;

30 2-Dibenzofurancarboxylic acid, 2-[(3-cyanophenyl)sulfonyl]-hydrazide;
2-Benzofurancarboxylic acid, 5-chloro-, 2-[(3-cyanophenyl)-
sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2,6-dichlorophenyl)sulfonyl]-hydrazide;

2-Benzofurancarboxylic acid, 5-bromo-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-, 2-[(2-chloro-4-fluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-, 2-[(3,5-dichlorophenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[[3,5-bis(trifluoromethyl)-phenyl]sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-, 2-[(3-chloro-4-fluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-nitro-, 2-(phenylsulfonyl)-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(5-fluoro-2-methylphenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3,4-difluorophenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3-chloro-4-fluorophenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3-methoxyphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(3-fluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(3,4-difluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(2-chlorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(3-chlorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(2-bromophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(3-bromophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(2-methylphenyl)-sulfonyl]hydrazide;

5 2-Benzofurancarboxylic acid, 5-chloro-2-[(3-methylphenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(3-methoxyphenyl)-sulfonyl]hydrazide;

10 2-Benzofurancarboxylic acid, 5-chloro-2-[(3-chloro-2-methylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(5-fluoro-2-methylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[[2-(trifluoromethyl)-phenyl]sulfonyl]hydrazide;

15 2-Benzofurancarboxylic acid, 5-chloro-2-[[2-(trifluoromethoxy)-phenyl]sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[[2-(trifluoromethyl)-phenyl]sulfonyl]hydrazide;

20 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-methylphenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 6-methoxy-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 5-methoxy-3-(1-methylethoxy), 2-(phenylsulfonyl)hydrazide;

25 2-Benzofurancarboxylic acid, 3,5-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 3,6-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

30 2-Benzofurancarboxylic acid, 4,6-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 3,7-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 3,7-dimethoxy-,
2-[(2-trifluoromethylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 3,7-dimethoxy-, 2-[(4-fluorophenyl)-
sulfonyl]hydrazide;

5 2-Benzofurancarboxylic acid, 3,7-dimethoxy-,
2-[(3-methylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 3-methoxy-5-phenyl-,
2-(phenylsulfonyl)hydrazide;

10 2-Benzofurancarboxylic acid, 3-ethoxy-5-phenyl-,
2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 3-methoxy-7-phenyl-,
2-(phenylsulfonyl)hydrazide;

Naptho[2,3-b]furan-2-carboxylic acid, 3-methoxy-,
2-(phenylsulfonyl)hydrazide;

15 2-Benzofurancarboxylic acid, 5,7-dichloro 2-(phenylsulfonyl)-sulfonyl
hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-[[2-(trifluoromethyl)-
phenyl]]sulfonyl]hydrazide;

20 2-Benzofurancarboxylic acid, 5,7-dichloro 2-[(2-methylphenyl)-
sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro, 2-[(3-methylphenyl)
sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro, 2-[(2-bromophenyl)-
sulfonyl]hydrazide;

25 2-Benzofurancarboxylic acid, 5,7-dichloro, 2-[(3-bromophenyl)-
sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro, 2-[(3-chlorophenyl)-
sulfonyl]hydrazide;

30 2-Benzofurancarboxylic acid, 5,7-dichloro,
2-[[2-(trifluoromethoxy)phenyl]sulfonyl]hydrazide;

Benzofurancarboxylic acid, 5-methyl-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-3-methoxy,
2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[[2-(trifluoromethyl)-
phenyl]sulfonyl]hydrazide;

5 2-Benzofurancarboxylic acid, 5-methyl-, 2-[(3-methylphenyl)-
sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[2-(methylphenyl)-
sulfonyl]hydrazide;

10 2-Benzofurancarboxylic acid, 5-methyl-, 2-[(3-chloro-
2-methylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[3-(bromophenyl)-
sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[(3-chlorophenyl)-
sulfonyl]hydrazide;

15 2-Benzofurancarboxylic acid, 5-methyl-, 2-[[2-(trifluoromethoxy)-
phenyl]sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methyl-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 4-methyl-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 3-methyl-, 2-(phenylsulfonyl)-hydrazide;

20 2-Benzofurancarboxylic acid, 3,5-dimethyl-, 2-(phenylsulfonyl)-
hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-3-methyl,
2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 5-amino-, 2-(phenylsulfonyl)-hydrazide;

25 2-Dibenzofurancarboxylic acid, 2-[(2-fluorophenyl)sulfonyl]-
hydrazide;

2-Dibenzofurancarboxylic acid, 2-(2,6-difluorophenylsulfonyl)-
hydrazide;

30 2-Dibenzofurancarboxylic acid, 2-[(2-bromophenyl)sulfonyl]-
hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3-bromophenyl)sulfonyl]-
hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(4-methyl-3-nitrophenyl)-sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[2-chloro-5-(trifluoromethyl)-phenyl]sulfonyl]hydrazide;

5 2-Dibenzofurancarboxylic acid, 2-[(2-trifluoromethoxyphenyl)-sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(4-bromo-2-trifluoromethoxyphenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2-nitrophenyl)sulfonyl]-hydrazide;

10 2-Dibenzofurancarboxylic acid, 2-[(4-carboxyphenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(4,5-dichloro-2-thienyl)-sulfonyl]hydrazide;

15 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-chlorophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-fluorophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(2,3-dichlorophenyl)-sulfonyl]hydrazide;

20 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-chloro-4-fluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(5-chloro-2-methoxyphenyl)sulfonyl]hydrazide;

25 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(5-bromo-2-methoxyphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(4-ethylphenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-methoxyphenyl)-sulfonyl]hydrazide;

30 2-Dibenzofurancarboxylic acid, 2-[(2,3-dichlorophenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(4-methylphenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[[2-(trifluoromethyl)phenyl]-sulfonyl]hydrazide;

2-Naphthalenecarboxylic acid, 2-[[4-(trifluoromethyl)phenyl]-sulfonyl]hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-chloro-4-fluorophenyl)-sulfonyl]hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-methoxyphenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-(2-thienylsulfonyl)hydrazide;

2-Naphthalenecarboxylic acid, 2-[(2,3-dichlorophenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(4-ethylphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(4-pentylphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[[2-(trifluoromethyl)phenyl]-sulfonyl]hydrazide;

3-Quinolinecarboxylic acid, 2-[[2,5-bis(2,2,2-trifluoroethoxy)-phenyl]sulfonyl]hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[[2-(trifluoromethoxy)phenyl]-sulfonyl]hydrazide;

3-Quinolinecarboxylic acid, 2-[(4-methylphenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(2-trifluoromethylphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(2-trifluoromethylphenyl)sulfonyl]-hydrazide;

5 6-Quinolinecarboxylic acid, 2-[(2-trifluoromethoxyphenyl)sulfonyl]hydrazide;

3-Quinolinecarboxylic acid, 2-[(2-trifluoromethoxyphenyl)sulfonyl]hydrazide;

10 6-Quinolinecarboxylic acid, 2-[(3,5-dichlorophenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3,5-dichlorophenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-chloro-4-fluorophenyl)sulfonyl]-hydrazide;

15 3-Quinolinecarboxylic acid, 2-[(3-chloro-4-fluorophenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-methoxyphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-methoxyphenyl)sulfonyl]-hydrazide;

20 6-Quinolinecarboxylic acid, 2-[(3-bromophenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[(3-bromophenyl)sulfonyl]-hydrazide;

Benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

7-Ethoxy-2-benzofurancarboxylic acid, 2-(phenylsulfonyl)-hydrazide;

7-Chloro-benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

25 2,3-Dihydro-benzofuran-5-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

5-Chloro-benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

Isoquinoline-1-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

1H-Indole-5-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

Quinoline-3-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

30 Quinoline-4-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

1H-Indole-5-carboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;

1H-Indole-5-carboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-hydrazide;

1H-Indole-5-carboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;
1H-Indole-5-carboxylic acid, 2-[(3-trifluoromethylphenyl)-
sulfonyl]hydrazide;

1H-Indole-5-carboxylic acid, 2-[(2-trifluoromethylphenyl)-
sulfonyl]hydrazide;

1H-Indole-5-carboxylic acid, 2-[(2-trifluoromethoxyphenyl)-
sulfonyl]hydrazide;

1H-Indole-5-carboxylic acid, 2-[(3-trifluoromethoxyphenyl)-
sulfonyl]hydrazide;

1H-Indole-5-carboxylic acid, 2-[(3-bromophenyl)sulfonyl]-hydrazide;

1H-Indole-5-carboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

1H-Indole-5-carboxylic acid, 2-[(2-methylphenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-trifluoromethylphenyl)sulfonyl]-
hydrazide;

6-Quinolinecarboxylic acid, 2-[(3-trifluoromethoxyphenyl)-
sulfonyl]hydrazide;

6-Quinolinecarboxylic acid, 2-[(2-methylphenyl)sulfonyl]-hydrazide;

Dibenzofuran-2-carboxylic acid, 2-(4-fluoro-3-
methylphenylsulfonyl)hydrazide;

7-Methoxy-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

7-Chloro-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

5-Methoxy-1H-indole-2-carboxylic acid, hydrazide
2-(phenylsulfonyl)hydrazide;

5-Chloro-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

5-Chloro-1H-indole-2-carboxylic acid, 2-[(2-trifluoromethyl)-
phenylsulfonyl]hydrazide;

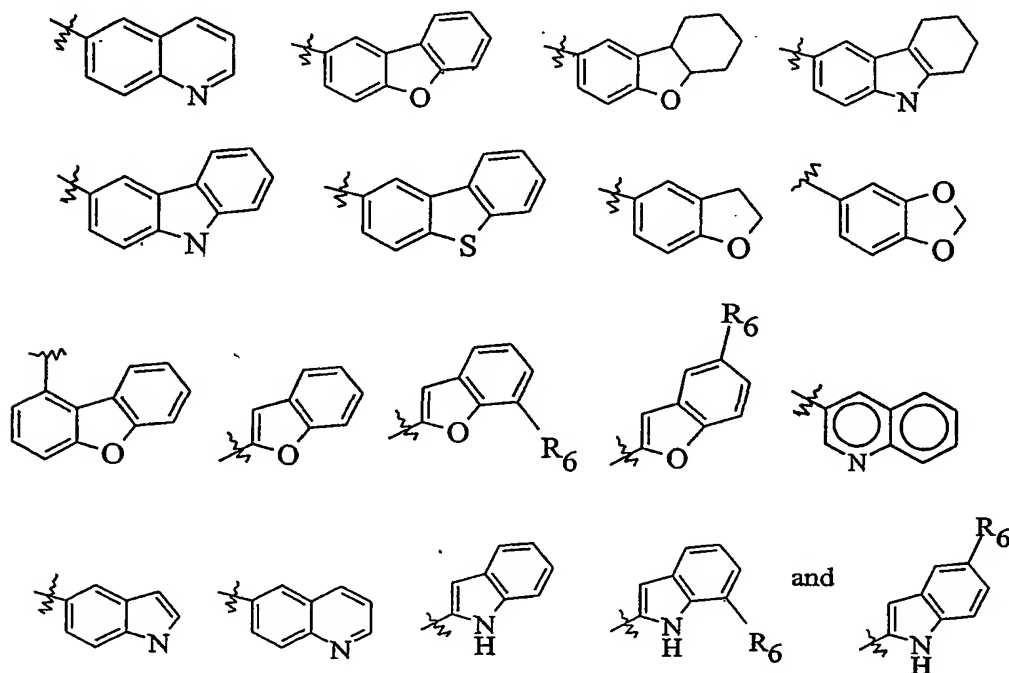
5-Methyl-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

5-Methyl-1H-indole-2-carboxylic acid, 2-[(2-trifluoromethyl)-
phenylsulfonyl]hydrazide; and

2-Naphthalenecarboxylic acid, 2-(phenylsulfonyl)hydrazide.

14. A method for inhibiting branched chain amino acid-dependent aminotransferases in a patient, the method comprising the step of administering to the patient a therapeutically effective amount of a compound of Claim 1.

15. The method of Claim 14, wherein Ar is selected from the group consisting of:



wherein R₆ is is alkoxy, substituted alkoxy, halogen, aryloxy, substituted aryloxy, alkylamino, substituted alkylamino, arylalkylamino, substituted arylalkylamino, amide or substituted amide.

16. The method of Claim 14, wherein Ar is a bicyclic heteroaryl.
17. The method of Claim 14, wherein Ar is a tricyclic heteroaryl.
18. The method of Claim 14, wherein R₁, R₂, R₃, R₄, and R₅ are hydrogen.
19. The method of Claim 14, wherein the compound is:
Dibenzofuran-2-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

2,3,4,9-Tetrahydro-1H-carbazole-6-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

Benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

5-Methoxy-2-benzofurancarboxylic acid, 2-(phenylsulfonyl)-hydrazide;

5 7-Methoxy-2-benzofurancarboxylic acid, 2-(phenylsulfonyl)-hydrazide;

7-Ethoxy-2-benzofurancarboxylic acid, 2-(phenylsulfonyl)-hydrazide;

7-Chloro-benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

5-Chloro-benzofuran-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

10 2,3-Dihydro-benzofuran-5-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

Benzo[1,3] dioxole-5-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

1H-Indole-5-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

1-Dibenzofurancarboxylic acid, 2-(phenylsulfonyl)hydrazide;

Quinoline-6-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

15 2-Dibenzofurancarboxylic acid, 2-[(2-methylphenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;

20 2-Dibenzofurancarboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-hydrazide;

Dibenzofuran-2-carboxylic acid, 2-(3,5-dichlorophenylsulfonyl)-hydrazide;

25 Dibenzofuran-2-carboxylic acid, 2-(3-chloro-2-methylphenylsulfonyl)hydrazide;

Quinoline-6-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

Quinoline-8-carboxylic acid, 2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(4-fluorophenyl)]-sulfonyl hydrazide;

30 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(4-fluorophenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(4-fluorophenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2-chloro-4-fluorophenyl)sulfonyl]hydrazide;

5 2-Dibenzofurancarboxylic acid, 2-[(3-cyanophenyl)sulfonyl]-hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-, 2-[(3-cyanophenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2,6-dichlorophenyl)sulfonyl]-hydrazide;

10 2-Benzofurancarboxylic acid, 5-bromo-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-, 2-[(2-chloro-4-fluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-, 2-[(3,5-dichlorophenyl)sulfonyl]hydrazide;

15 2-Dibenzofurancarboxylic acid, 2-[[3,5-bis(trifluoromethyl)-phenyl]sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro, 2-[(3-chloro-4-fluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-nitro-, 2-(phenylsulfonyl)-hydrazide;

20 2-Dibenzofurancarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(5-fluoro-2-methylphenyl)sulfonyl]hydrazide;

25 2-Dibenzofurancarboxylic acid, 2-[(3,4-difluorophenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3-chloro-4-fluorophenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3-methoxyphenyl)sulfonyl]hydrazide;

30 2-Benzofurancarboxylic acid, 5-chloro-2-[(3-fluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(3,4-difluorophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(2-chlorophenyl)-sulfonyl]hydrazide;

5 2-Benzofurancarboxylic acid, 5-chloro-2-[(3-chlorophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(2-bromophenyl)-sulfonyl]hydrazide;

10 2-Benzofurancarboxylic acid, 5-chloro-2-[(3-bromophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(2-methylphenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(3-methylphenyl)-sulfonyl]hydrazide;

15 2-Benzofurancarboxylic acid, 5-chloro-2-[(3-methoxyphenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(3-chloro-2-methylphenyl)sulfonyl]hydrazide;

20 2-Benzofurancarboxylic acid, 5-chloro-2-[(5-fluoro-2-methylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[(2-(trifluoromethyl)-phenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-2-[[2-(trifluoromethoxy)-phenyl]sulfonyl]hydrazide;

25 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[[2-(trifluoromethyl)-phenyl]sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-methylphenyl)-sulfonyl]hydrazide;

30 2-Benzofurancarboxylic acid, 6-methoxy-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 5-methoxy-3-(1-methylethoxy), 2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 3,5-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 3,6-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

5 2-Benzofurancarboxylic acid, 4,6-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 3,7-dimethoxy-, 2-(phenylsulfonyl)-hydrazide;

10 2-Benzofurancarboxylic acid, 3,7-dimethoxy-,
2-[(2-trifluoromethylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 3,7-dimethoxy-, 2-[(4-fluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 3,7-dimethoxy-,
2-[(3-methylphenyl)sulfonyl]hydrazide;

15 2-Benzofurancarboxylic acid, 3-methoxy-5-phenyl-,
2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 3-ethoxy-5-phenyl-,
2-(phenylsulfonyl)hydrazide;

20 2-Benzofurancarboxylic acid, 3-methoxy-7-phenyl-,
2-(phenylsulfonyl)hydrazide;

Naptho[2,3-b]furan-2-carboxylic acid, 3-methoxy-,
2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-(phenylsulfonyl)-sulfonyl
hydrazide;

25 2-Benzofurancarboxylic acid, 5,7-dichloro 2-[[2-(trifluoromethyl)-
phenyl]sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-[(2-methylphenyl)-
sulfonyl]hydrazide;

30 2-Benzofurancarboxylic acid, 5,7-dichloro 2-[(3-methylphenyl)
sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-[(2-bromophenyl)-
sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-[(3-bromophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5,7-dichloro 2-[(3-chlorophenyl)-sulfonyl]hydrazide;

5 2-Benzofurancarboxylic acid, 5,7-dichloro
2-[[2-(trifluoromethoxy)phenyl]sulfonyl]hydrazide;

Benzofurancarboxylic acid, 5-methyl-, 2-(phenylsulfonyl)-hydrazide;

2-Benzofurancarboxylic acid, 5-chloro-3-methoxy,
2-(phenylsulfonyl)hydrazide;

10 2-Benzofurancarboxylic acid, 5-methyl-, 2-[[2-(trifluoromethyl)-phenyl]sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[(3-methylphenyl)-sulfonyl]hydrazide;

15 2-Benzofurancarboxylic acid, 5-methyl-, 2-[2-(methylphenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[(3-chloro-2-methylphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[3-(bromophenyl)-sulfonyl]hydrazide;

20 2-Benzofurancarboxylic acid, 5-methyl-, 2-[(3-chlorophenyl)-sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 5-methyl-, 2-[[2-(trifluoromethoxy)-phenyl]sulfonyl]hydrazide;

25 2-Benzofurancarboxylic acid, 7-methyl-, 2-(phenylsulfonyl)-hydrazide;
2-Benzofurancarboxylic acid, 4-methyl-, 2-(phenylsulfonyl)-hydrazide;
2-Benzofurancarboxylic acid, 3-methyl-, 2-(phenylsulfonyl)-hydrazide;
2-Benzofurancarboxylic acid, 3,5-dimethyl-, 2-(phenylsulfonyl)-hydrazide;

30 2-Benzofurancarboxylic acid, 5-chloro-3-methyl,
2-(phenylsulfonyl)hydrazide;

2-Benzofurancarboxylic acid, 5-amino-, 2-(phenylsulfonyl)-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2-fluorophenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-(2,6-difluorophenylsulfonyl)-hydrazide;

5 2-Dibenzofurancarboxylic acid, 2-[(2-bromophenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(3-bromophenyl)sulfonyl]-hydrazide;

10 2-Dibenzofurancarboxylic acid, 2-[(4-methyl-3-nitrophenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[2-chloro-5-(trifluoromethyl)phenyl]sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2-trifluoromethoxyphenyl)sulfonyl]hydrazide;

15 2-Dibenzofurancarboxylic acid, 2-[(4-bromo-2-trifluoromethoxyphenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2-nitrophenyl)sulfonyl]-hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(4-carboxyphenyl)sulfonyl]-hydrazide;

20 2-Dibenzofurancarboxylic acid, 2-[(4,5-dichloro-2-thienyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-chlorophenyl)sulfonyl]hydrazide;

25 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-fluorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(2,3-dichlorophenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-chloro-4-fluorophenyl)sulfonyl]hydrazide;

30 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(5-chloro-2-methoxyphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(5-bromo-2-methoxyphenyl)sulfonyl]hydrazide;

2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(4-ethylphenyl)sulfonyl]hydrazide;

5 2-Benzofurancarboxylic acid, 7-methoxy-, 2-[(3-methoxyphenyl)sulfonyl]hydrazide;

2-Dibenzofurancarboxylic acid, 2-[(2,3-dichlorophenyl)sulfonyl]hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

10 2-Naphthalenecarboxylic acid, 2-[(4-methylphenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[[2-(trifluoromethyl)phenyl]sulfonyl]hydrazide;

2-Naphthalenecarboxylic acid, 2-[[4-(trifluoromethyl)phenyl]sulfonyl]hydrazide;

15 2-Naphthalenecarboxylic acid, 2-[(3-chloro-4-fluorophenyl)sulfonyl]hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-methoxyphenyl)sulfonyl]hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;

20 2-Naphthalenecarboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;

2-Naphthalenecarboxylic acid, 2-[(2,3-dichlorophenyl)sulfonyl]hydrazide;

2-Naphthalenecarboxylic acid, 2-[(4-ethylphenyl)sulfonyl]-hydrazide;

25 3-Quinolinecarboxylic acid, 2-[(4-pentylphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[[2(trifluoromethyl)phenyl]sulfonyl]hydrazide;

3-Quinolinecarboxylic acid, 2-[[2,5-bis(2,2,2-trifluoroethoxy)phenyl]sulfonyl]hydrazide;

30 3-Quinolinecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;

3-Quinolinecarboxylic acid, 2-[[2-(trifluoromethoxy)phenyl]sulfonyl]hydrazide;

- 3-Quinolinecarboxylic acid, 2-[(4-methylphenyl)sulfonyl]-hydrazide;
6-Quinolinecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;
3-Quinolinecarboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;
6-Quinolinecarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;
5 3-Quinolinecarboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;
6-Quinolinecarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;
3-Quinolinecarboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;
6-Quinolinecarboxylic acid, 2-[(2-trifluoromethylphenyl)sulfonyl]-
hydrazide;
10 3-Quinolinecarboxylic acid, 2-[(2-trifluoromethylphenyl)sulfonyl]-
hydrazide;
6-Quinolinecarboxylic acid, 2-[(2-trifluoromethoxyphenyl)-
sulfonyl]hydrazide;
3-Quinolinecarboxylic acid, 2-[(2-trifluoromethoxyphenyl)-
15 sulfonyl]hydrazide;
6-Quinolinecarboxylic acid, 2-[(3,5-dichlorophenyl)sulfonyl]-
hydrazide;
3-Quinolinecarboxylic acid, 2-[(3,5-dichlorophenyl)sulfonyl]-
hydrazide;
20 6-Quinolinecarboxylic acid, 2-[(3-chloro-4-fluorophenyl)sulfonyl]-
hydrazide;
3-Quinolinecarboxylic acid, 2-[(3-chloro-4-fluorophenyl)sulfonyl]-
hydrazide;
6-Quinolinecarboxylic acid, 2-[(3-methoxyphenyl)sulfonyl]-hydrazide;
25 3-Quinolinecarboxylic acid, 2-[(3-methoxyphenyl)sulfonyl]-hydrazide;
6-Quinolinecarboxylic acid, 2-[(3-bromophenyl)sulfonyl]-hydrazide;
3-Quinolinecarboxylic acid, 2-[(3-bromophenyl)sulfonyl]-hydrazide;
Benzofuran-2-carboxylic acid 2-(phenylsulfonyl)hydrazide;
7-Ethoxy-2-benzofurancarboxylic acid 2-(phenylsulfonyl)-hydrazide;
30 7-Chloro-benzofuran-2-carboxylic acid 2-(phenylsulfonyl)-hydrazide;
2,3-Dihydro-benzofuran-5-carboxylic acid 2-(phenylsulfonyl)-
hydrazide;

- 5-Chloro-benzofuran-2-carboxylic acid 2-(phenylsulfonyl)-hydrazide;
Isoquinoline-1-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
1H-Indole-5-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
Quinoline-3-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
5 Quinoline-4-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
1H-Indole-5-carboxylic acid, 2-[(3-chlorophenyl)sulfonyl]-hydrazide;
1H-Indole-5-carboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-hydrazide;
1H-Indole-5-carboxylic acid, 2-[(3-fluorophenyl)sulfonyl]-hydrazide;
1H-Indole-5-carboxylic acid, 2-[(3-trifluoromethylphenyl)-
10 sulfonyl]hydrazide;
1H-Indole-5-carboxylic acid, 2-[(2-trifluoromethylphenyl)-
sulfonyl]hydrazide;
1H-Indole-5-carboxylic acid, 2-[(2-trifluoromethoxyphenyl)-
sulfonyl]hydrazide;
15 1H-Indole-5-carboxylic acid, 2-[(3trifluoromethoxyphenyl)-
sulfonyl]hydrazide;
1H-Indole-5-carboxylic acid, 2-[(3-bromophenyl)sulfonyl]-hydrazide;
1H-Indole-5-carboxylic acid, 2-[(3-methylphenyl)sulfonyl]-hydrazide;
1H-Indole-5-carboxylic acid, 2-[(2-methylphenyl)sulfonyl]-hydrazide;
20 6-Quinolinecarboxylic acid, 2-[(2-chlorophenyl)sulfonyl]-hydrazide;
6-Quinolinecarboxylic acid, 2-[(3-trifluoromethylphenyl)sulfonyl]-
hydrazide;
6-Quinolinecarboxylic acid, 2-[(3-trifluoromethoxyphenyl)-
sulfonyl]hydrazide;
25 6-Quinolinecarboxylic acid, 2-[(2-methylphenyl)sulfonyl]-hydrazide;
Dibenzofuran-2-carboxylic acid, 2-(4-fluoro-3-
methylphenylsulfonyl)hydrazide;
7-Methoxy-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;
7-Chloro-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;
30 5-Methoxy-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
5-Chloro-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)hydrazide;
5-Chloro-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

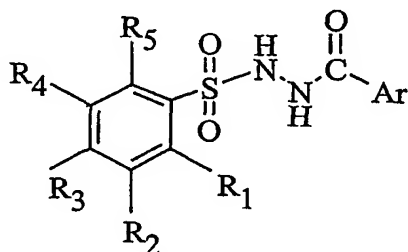
5-Chloro-1H-indole-2-carboxylic acid, 2-[(2-trifluoromethyl)-phenylsulfonyl]hydrazide;

5-Methyl-1H-indole-2-carboxylic acid, 2-(phenylsulfonyl)-hydrazide;

5-Methyl-1H-indole-2-carboxylic acid, 2-[(2-trifluoromethyl)-phenylsulfonyl]hydrazide; and

2-Naphthalenecarboxylic acid, 2-(phenylsulfonyl)hydrazide.

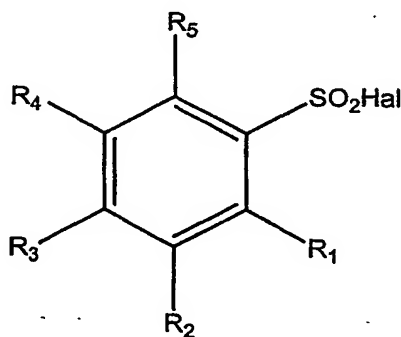
20. A method for preparing a compound of Formula I



wherein:

R₃ is H, or F, Br, alkyl, carboxy, alkoxy, substituted alkoxy,

R₁, R₂, R₄, and R₅ are independently, H, halogen, alkyl, substituted alkyl, alkoxy, substituted alkoxy, cyano, nitro, amino, alkylamine, and thioalkyl, Ar is bicyclic heteroaryl, tricyclic heteroaryl, substituted bicyclic heteroaryl, except (6-methoxybenzofuran)-2-nyl, 3-quinolinyl which comprises reacting a hydrazide of the formula ArC(O)NH₂NH₂ with a sulfonyl halide of the formula:



where R₁, R₂, R₃, R₄, R₅ and Ar are as defined above and Hal is halogen.

21. Use of a compound of Formula I as claimed in claim 1 for preparation of a medicament for treatment or preventing neuronal loss associated with stroke, ischemia, CNS trauma, hypoglycemia or surgery, or treating a neurodegenerative disease, or treating or preventing the adverse consequences of the overstimulation of the excitatory amino acids, or treating anxiety, psychosis, glaucoma, CMV retinitis, diabetic retinopathy, urinary incontinence, migraine headache, convulsions, aminoglycoside antibiotics-induced hearing loss, Parkinson's disease, chronic pain, neuropathic pain, or inducing anesthesia, opioid tolerance or withdrawal, or enhancing cognition.

22. A medicine for treatment or preventing neuronal loss associated with stroke, ischemia, CNS trauma, hypoglycemia or surgery, or treating a neurodegenerative disease, or treating or preventing the adverse consequences of the overstimulation of the excitatory amino acids, or treating anxiety, psychosis, glaucoma, CMV retinitis, diabetic retinopathy, urinary incontinence, migraine headache, convulsions, aminoglycoside antibiotics-induced hearing loss, Parkinson's disease, chronic pain, neuropathic pain, or inducing anesthesia, opioid tolerance or withdrawal, or enhancing cognition comprising a therapeutically effective amount of a compound as claimed in claim 1.

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The invention relates to BCAT inhibitor compounds of formula (I) and use thereof for treating or preventing neuronal loss associated with stroke, ischemia, CNS trauma, hypoglycemia and surgery, as well as treating neurodegenerative diseases including Alzheimer's disease, amyotrophic lateral sclerosis, Huntington's disease and

5 Down's syndrome, treating or preventing the adverse consequences of the overstimulation of the excitatory amino acids, treating anxiety, psychosis, convulsions, aminoglycoside antibiotics-induced hearing loss, migraine headache, chronic pain, neuropathic pain, Parkinson's disease, diabetic retinopathy, glaucoma, CMV retinitis, urinary incontinence, opioid tolerance or withdrawal, and inducing anesthesia, as well as for enhancing

10 cognition.